Applicant requests that the Examiner consider the following Amendment and Response and withdraw the pending restriction and multiplicity requirements.

Kindly amend the subject application as follows.

In The Claims

Kindly amend the claims as follows. Please delete all claims in the subject application except claims 1, 2, 5, 7, 8, 9, 20, 21, 29, 34, 39, 40, 41, 42, 48, 60, 62, 63, 106, and 109. For the Examiner's convenience, applicant has listed below the claims remaining the application.

1. A layered catalyst composite comprising a first layer and a second layer:

(a) the first layer comprising a first support and a first platinum component; and

(b) the second layer comprising a second support and a SO_X sorbent component having a free energy of formation from about 0 to about -90 Kcal/mole at 350°C.

2. The layered catalyst composite as recited in claim 1, wherein the first and second supports are the same or different and are compounds selected from the group consisting of silica, alumina, and titania compounds.

5. The layered catalyst composite as recited in claim 1, wherein the SO_x sorbent component has a free energy of formation from about 0 to about -60 Kcal/mole at 350°C.

7. The layered catalyst composite as recited in claim 1, wherein the SO_x sorbent component is selected from the group consisting of oxides and aluminum oxides of lithium, magnesium, calcium, manganese, iron, cobalt, nickel, copper, zinc, and silver.

8. The layered catalyst composite as recited in claim 7, wherein the SO_x sorbent component is selected from the group consisting of MgO, $MgAl_2O_4$, MnO, MnO_2, and Li_2O.

9. The layered catalyst composite as recited in claim 8, wherein the SO_x sorbent component is MgO or Li_2O.

20. The layered catalyst composite as recited in claim 1, wherein the second layer comprises from about 0.03g/in^3 to about 2.4g/in^3 of the SO_x sorbent component.

21. The layered catalyst composite as recited in claim 20, wherein the second layer comprises from about 0.3g/in^3 to about 1.8g/in^3 of the SO_x sorbent component.

29. The layered catalyst composite as recited in claim 1, comprising:

29. The layered catalyst composite as recited in claim 1, comprising:

(a) in the first layer;

(i) from about 0.15g/in3 to about 2.7g/in3 of the first support;

(ii) at least about 1g/ft3 of the first platinum component;

(iii) at least about 1g/ft3 of a first platinum group metal component other than platinum;

(iv) from about 0.025g/in3 to about 0.7g/in3 of a NOx sorbent component selected from the group consisting of alkaline earth metal oxides, alkali metal oxides, and rare earth metal oxides; and

(v) from about 0.025g/in3 to about 0.7g/in3 of a first zirconium component; and

(b) in the second layer;

(i) from about 0.15g/in3 to about 2.7g/in3 of the second support;

(ii) from about 0.3g/in3 to about 1.8g/in3 of the SOx sorbent component;

(iii) at least about 1g/ft3 of a second platinum group component;

(iv) at least about 1g/ft3 of a second platinum group metal component other than platinum; and

(v) from about 0.025g/in3 to about 0.7g/in3 of a second zirconium component.

34. An axial layered catalyst composite comprising an upstream section and a downstream section

(1) the downstream section comprising:

(a) a downstream substrate; and

(b) a first layer on the downstream substrate, the first layer comprising a first support and a first platinum component;

(2) the upstream section comprising:

(a) an upstream substrate; and

(b) a second layer on the upstream substrate, the second layer comprising a second support and a SO_x sorbent component having a free energy of formation from about 0 to about -90 Kcal/mole at 350°C.

39. The axial layered catalyst composite as recited in claim 34, wherein the SO_x sorbent component has a free energy of formation from about 0 to about -60 Kcal/mole at 350°C.

40. The axial layered catalyst composite as recited in claim 34, wherein the SO_x sorbent component is selected from the group consisting of oxides and aluminum oxides of lithium, magnesium, calcium, manganese, iron, cobalt, nickel, copper, zinc, and silver.

41. The axial layered catalyst composite as recited in claim 40, wherein the SO_x sorbent component is selected from the group consisting of MgO, $MgAl_2O_4$, MnO, MnO_2, and Li_2O.

42. The axial layered catalyst composite as recited in claim 41, wherein the SO_x sorbent component is MgO or Li_2O.

48. The axial layered catalyst composite as recited in claim 34, comprising:

(a) in the first layer;

(i) from about 0.15g/in^3 to about 2.0g/in^3 of the first support;

(ii) at least about 1g/ft^3 of the first platinum component;

(iii) at least about 1g/ft^3 of a first platinum group metal component other than platinum;

(iv) from about 0.025g/in^3 to about 0.5g/in^3 of a NO_x sorbent component selected from the group consisting of alkaline earth metal oxides, alkali metal oxides, and rare earth metal oxides; and

(v) from about 0.025g/in^3 to about 0.5g/in^3 of a first zirconium component; and

(b) in the second layer;

(i) from about 0.15g/in^3 to about 2.0g/in^3 of the second support;

(ii) from about 0.3g/in^3 to about 1.8g/in^3 of the SO_x sorbent component;

(iii) at least about 1g/ft^3 of a second platinum group component;

(iv) at least about 1g/ft^3 of a second platinum group metal component other than platinum; and

(v) from about 0.025g/in^3 to about 0.5g/in^3 of a second zirconium component.

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60. A radial layered catalyst composite comprising a bottom layer, a first middle layer, and a top layer:

(a) the bottom layer comprising:

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(i) a first support;

(ii) a first platinum component;

(iii) a first NO_X sorbent component selected from the group consisting of cesium components, potassium components, and cerium components; and

(b) the first middle layer comprising:

(i) a second support;

(ii) a second SO_X sorbent component which is selected from the group consisting of BaO and MgO; and

(c) the top layer comprising:

(i) a third support;

(ii) a third SO_X sorbent component which is $MgAl_2O_4$.

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62. The radial layered catalyst composite as recited in claim 60, wherein the second SO_X sorbent component in the first middle layer is BaO.

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63. The radial layered catalyst composite as recited in claim 60, wherein the second SO_x sorbent component in the first middle layer is MgO.

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106. A method of forming a layered catalyst composite which comprises the steps of:

(a) forming a first layer comprising:

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(i) a first support; and

(ii) a first platinum component; and

(b) coating the first layer with a second layer comprising:

(i) a second support; and

(ii) a SO_x sorbent component having a free energy of formation from about 0 to about -90 Kcal/mole at 350°C.

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109. A method of forming a layered catalyst composite which comprises the steps of:

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(a) combining a water-soluble or dispersible first platinum component and a finely divided, high surface area refractory oxide with an aqueous liquid to form a first solution or dispersion which is sufficiently dry to absorb essentially all of the liquid;

(b) forming a first layer of the first solution or dispersion on a substrate;

(c) converting the first platinum component in the resulting first layer to a water-insoluble form;

SUB B7